Claim amendment

1. (currently amended) A method of coding audio signals in a sound system having a plurality of sound channels for providing *M* sets of audio signals from input signals, wherein *M* is a positive integer greater than 2, and wherein a plurality of intra-channel signal redundancy removal devices are used to reduce the audio signals for providing first signals in the plurality of sound channels indicative of the reduced audio signals, said method comprising the steps of:

converting the first signals in at least two of the plurality of sound channels to audio data of integers for providing second signals in said at least two sound channels indicative of the audio data; and

operatively engaging the second signals in said at least two sound channels, separately from the intra-channel signal redundancy removal devices, for reducing inter-channel signal redundancy in the second signals [for providing] in order to provide third signals indicative of the reduced second signals in said at least two sound channels.

2. (original) The method of claim 1, wherein the audio signals from which the intra-channel signal redundancy is removed are provided in a form of pulsed code modulation samples.

3. (original) The method of claim 1, wherein the intra-channel signal redundancy removal is carried out by a modified discrete cosine transform operation.

4. (original) The method of claim 1, wherein the inter-channel signal redundancy reduction is carried out in an integer-to-integer discrete cosine transform operation.

5. (original) The method of claim 1, wherein the inter-channel signal redundancy reduction is carried out for reducing redundancy in the audio signals in *L* channels, wherein *L* is a positive integer greater than 2 but smaller than *M*+1.

6. (original) The method of claim 1, wherein the inter-channel signal redundancy reduction is carried out for reducing redundancy in the audio signals in at least one group of L_1 channels and one group of L_2 channels separately, wherein L_1 and L_2 are positive integers greater than 2 and (L_1+L_2) is smaller than $M+1$.

7. (original) The method of claim 1, further comprising a signal masking step in accordance with a psychoacoustic model simulating a human auditory system for masking the first signals.

8. (original) The method of claim 1, further comprising the step of converting the third signals into a further bitstream for transmitting or storage.

9. (previously presented) A method of coding audio signals in a sound system having a plurality of sound channels for providing M sets of audio signals from input signals, wherein M is a positive integer greater than 2, and wherein a plurality of intra-channel signal redundancy removal devices are used to reduce the audio signals for providing first signals indicative of the reduced audio signals, said method comprising the steps of:

converting the first signals to audio data of integers for providing second signals indicative of the audio data; and

reducing inter-channel signal redundancy in the second signals for providing third signals indicative of the reduced second signals, wherein the second signals are divided into a plurality of scale factor bands and the third signals are divided into a plurality of corresponding scale factor bands, said method further comprising the step of comparing coding efficiency in the second signals to coding efficiency in the third signals in corresponding scale factor bands, for bypassing the reducing step if the coding efficiency in the third signals is smaller than the coding efficiency in the second signals.

10. (currently amended) A system for coding audio signals in a sound system having a plurality of sound channels for providing M sets of audio signals from input signals, wherein M is a positive integer greater than 2, and wherein a plurality of intra-channel signal redundancy

removal devices are used to reduce the audio signals for providing first signals in the plurality of sound channels indicative of the reduced audio signals, said system comprising:

a first means, responsive to the first signals, for converting the first signals in at least two of the plurality of sound channels to audio data of integers for providing second signals in said at least two channels indicative of the audio data; and

a second means, disposed separately from the intra-channel signal redundancy removal devices and operatively engaging said at least two channels, [responsive to the second signals], for reducing inter-channel signal redundancy in the second signals in said at least two sound channels for providing third signals indicative of the reduced second signals.

11. (previously presented) A system for coding audio signals in a sound system having a plurality of sound channels for providing *M* sets of audio signals from input signals, wherein *M* is a positive integer greater than 2, and wherein a plurality of intra-channel signal redundancy removal devices are used to reduce the audio signals for providing first signals indicative of the reduced audio signals, said system comprising:

a first means, responsive to the first signals, for converting the first signals to audio data of integers for providing second signals indicative of the audio data; and

a second means, responsive to the second signals, for reducing inter-channel signal redundancy in the second signals for providing third signals indicative of the reduced second signals, wherein the second signals are divided into a plurality of scale factor bands and the third signals are divided into a plurality of corresponding scale factor bands, and wherein coding efficiency in the second signals in a scale factor band is representable by a first value and coding efficiency in the third signals in the corresponding scale factor band is representable by a second value, said system further comprising a comparison means, responsive to the second and third signals, for bypassing the inter-channel signal redundancy reduction in said scale band factor by the second means when the first value is greater or equal to the second value.

12. (original) The system of claim 10, wherein the audio signals from which the intra-channel signal redundancy is removed are provided in a form of pulsed code modulation samples.

13. (original) The system of claim 10, wherein the intra-channel signal redundancy removal is carried out by a modified discrete cosine transformation.

14. (original) The system of claim 10, wherein the inter-channel signal redundancy reduction is carried out in an integer-to-integer discrete cosine transform.

15. (original) The system of claim 10, wherein the inter-channel signal redundancy reduction is carried out in order to reduce redundancy in the audio signals in L channels, wherein L is a positive integer greater than 2 but smaller than M+1.

16. (original) The system of claim 10, further comprising means for masking the first signals according to a masking threshold calculated from a psychoacoustic model simulating a human auditory system.

17. (original) The system of claim 10, further comprising means, responsive to the third signals, for converting the third signals into a bitstream for transmitting or storage.